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THE SOUTH AFRICAN CHAMBER OF MINES:
POLICY AND STRATEGY WITH REFERENCE TO
FOREIGN AFRICAN LABOUR SUPPLY

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DSRG Working Paper No. 2

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Before moving on to an examination of the mining labour supply system, and policy and stategy used to articulate it, attention should be directed briefly at the character of the Chamber of Mines (C.M.).

THE CHAMBER OF MINES

The Chamber, set up in 1899, essentially represents the collective interests of its affiliate members on a wide range of pertinent matters. It is the "lynchpin" of the industry, even for non-members, and is a key element in the foreign labour network. Its ordinary membership (in 1975) was composed of 116 producers, 46 of whom were in gold mining and 43 in coal production. There were 14 financial corporations - key "controlling interests" which have always been highly monopolistic - as well as other members in various sub-sectors, here including diamonds, platinum,antimony, asbestos, copper and base metals. The Chamber has had a "merger arrangement" (since 1975) with the Natal Coal Owners' Society. All these producers have made and continue to make extensive use of foreign African workers.

Because of the significance of gold, the Gold Producers' Committee sits at the apex of power within the "mining complex". As one observer has commented, it is the "inner sanctum of the industry (and) its deliberations are as secret as those of a cabinet".[1] It could be added, they are also of similar import in certain respects. Gold mining is also the sub-sector with the heaviest dependence on foreign labour.

A reading of the Annual Reports of the C.M. provides sufficient evidence of its multifarious interests and significance. Its own budget - for administration, gold marketing, public relations, training and research - runs in excess of R17 million annually.

Key amongst its activities is the regulation of labour supply and employment policy. Here there is considerable collusion over basic industry policy. It is expressed through the seven "mining houses" which compose the Chamber and account for the bulk of workers employed in gold, coal and other mining production. However, as the recent past has indicated, the C.M. has no executive power on this issue. The actual recruitment and supply of labour to individual mines both from South Africa and supplier States is managed by a parallel organisation - Mine Labour Organisations (Ltd.), which includes the Witwatersrand Native Labour Association (Wenela) and the Native Recruitment Corporation (NRC) - the members of which are individual corporations, most of whom are also members of the Chamber. For all intent and practical purpose, the CM and MLO are one, despite the administrative necessity and fiction of a separate corporate legal persona. It should also be noted that on-site labour policies fall into the jurisdiction of the individual companies who must meet CM stipulated minimum conditions and MLO contractual requirements.

The relative distribution of African labour between mining houses is illustrated in Table 1. Anglo American Corporation remains supreme with Rand Mines, Unicorporation and Goldfields each having roughly half as many employees. A complete analysis of the interlocking directorates and cross-holdings of investments does not exist, suffice it to say that from available evidence it is clear that the mining houses are closely linked.[2] There is unfortunately no available breakdown of foreign/local labour ratios for these mining houses.

The essential objective of the individual mining companies, their mining house groups and the industry is the securement of profits for shareholders, the latter being many in number, although concentrated in terms of relative power of control.[3] Labour supply policy remains necessarily subordinate to this basic objective - policies for the securement of which change from time to time - and, indeed, can be understood as such. This is not, however, to deny some existant or potential latitude of manoevreability in policy. Policy and stategy on foreign African labour supply, nonetheless, has been, and indeed remains, fundamental in this overall equation.

The success of policy - including the rapid substitution of local for foreign labour in recent times - is summed up in the revenue, costs and profits position for 1970-75 (see Table 2). Average revenue per metric ton has tripled to R34.45 whilst working costs have only doubled in current price terms to R16.71. As a result, working profits per metric ton have rocketed from R3.90 to R17.74, reaching a 1974 peak, under pressure of a gold price close to US$ 200 per ounce, of R21.52. Not all sub-sectors have fared this well, however, but the relative importance and re-vitalisation of gold has substantially affected the industry position.

The performance has been most rewarding to capital, the value of dividends rising from R143.5 million in 1970 to R522.8 million in 1975 (see Table 3). The dividend value per kilogram of gold has risen even more sharply, by more than 400 percent. Throughout this period, except for 1975, the dividend/'non-white' (gold and coal) wage bill ratio rose, suggesting a distributional bias against this source of labour.

Indeed, the maintenance of such a growth record during a period of much up-heaval in labour supply patterns attests to the resilience of the CM's labour supply policy and strategy as well as the power of adaptation of the industry to changing circumstances. It is also, however, a testimony to the weakness of labour - largely foreign-rooted - and its ability to secure a larger division of the fruits of production. These dual inter-related perspectives are examined below in a sequence which follows, firstly, policies adopted from the interface at which capital confronts labour for recruitment, through the network of transmission of workers to the depots and mines in South Africa, ultimately leading to discharge of the worker through temporary or permanent "displacement" from the "mining complex", and, secondly, the strategic design of the CM/MLO modus operandi in the Southern African economic complex.

I POLICY ON LABOUR SUPPLY, EMPLOYMENT AND "DISPLACEMENT"

Here the focus is on four separable but inter-related processes: the securement of foreign labour and policy prior to arrival in South Africa; policy before arrival at the point of production; policy during employment; and the processes and policy of discharging and "recycling" labour supplies.

THE CONTRACT LABOUR RECRUITMENT NETWORK

Contract labour recruitment from supplier States is the monopoly of the Wenela/NRC or MLO. In one sense, this is a unique "multinational corporation", being in the import/export "business" for a unique commodity - labour-time. The MLO does not, however, seek directly to make a profit for its members. Dividends are neither declared nor paid. Members take out shares for the purposes not only of funding the enterprise itself but also for securement of a right of entitlement to purchase contract "labour-time" from the MLO. It is important to stress this latter point. Members do take MLO recruitees under contract but the cost of contractees is paid into a "Labour Charges Paid Account" to which members contribute on a "cost per shift worked" basis. This charge is thus levied not on number of labourers employed but the volume of labour-time they provide. The charge has risen from 12 cents per shift in 1970 to 16 cents per shift for (post-April) 1974 and 29 cents per shift in (March) 1976. Since this latter date, the charge has been lowered to 26 cents per shift. The percentage rise in this supplier cost has been lower than the rise in underground wage minima. It has thus been a falling proportion of the latter.

The fact that it is "labour-time" which is sold to members and mining producers has important implications. It gives each member a direct interest in a low labour securement cost. It provides the MLO lobby with a powerful back-up of corporate support vis-a-vis its sources of labour because factors pushing up securement costs - like rising attestation fees, supplier State charges ect. - inflict like damage on all. It also "averages" costs across producers, thereby in effect giving each member an equivalent starting point in the pursuit of profits. This may (at least in theory) work to aid less efficient producers or those who in other circumstances would find difficulty in obtaining labour supply without an improvement in wages and conditions. Further, the formula makes the industry as a whole bear the brunt of "disturbing considerations" such as strikes, inefficiency in the labour supplying network, abscondment and the built-in high contract labour turnover level. It can thus be surmised that factors affecting foreign labour supply are of much consequence to all producers, even those who only rely on a relatively small proportion of foreign labour. If those who do rely on foreign contractees were to bid locally, marginal producers and others might well be seriously affected.

The reasons why contract recruitment from supplier States is "privatised" are historical. The Chamber, it is reported, has always had an efficient recruitment system. It has thus been logical for the government to allow its continued functioning, as it has done under a 1937 Act to give the CM a monopoly in the foreign contract labour market. Nonetheless, a few private contractors do still exist in the local labour market.[4] The latter supply not only the mines but other sectors as well (cf. the Sugar Industry Labour Organisation). Only about 1500 workers enter the mines via private contractors who normally secure contracts with a particular mining company. This practice is apparently most extensive in the Transkei, being grafted on to a trader network. However, as with the MLO, private contractors sell labour-time. Thus their charges vary: often R8 for a 6 month contract, R9 for a 9 month contract and R12 for 12 months.[5]

The MLO operates firmly in conjunction with the CM, the members of which are simultaneously both its shareholders and its clientele. Its managerial staff have decades of experience in the field, together with an intimate knowledge of supplier areas and the "nooks and crannies" of the system.[6] This longevity of experience, backed up by an efficient and professional Head Office organisation,with ample finance because of an "assured market", makes the MLO a formidable employer body in the southern sub-continent. Its depot system spreads throughout Southern Africa and provides the organisation with basic information and intelligence on local conditions and prospective labour surpluses.

The functions of the MLO's subsidiaries - Wenela, which operates outside of South Africa and the BLS States, and the NRC, which covers these latter two areas - are various. The MLO ensures that contactees comply with all the labour laws of supplier areas, e.g. with regard to documentation and the specific inter-State contract conditions under which recruitment takes place. It also takes responsibility for the transport of contractees, their subsistence en route and arrangements for return to the point of recruitment at the expiration of contract. The individual MLO authorities in each supplier State control subsidiary agencies throughout the network. They help Head Office articulate its supply requirements with "needs" as determined by production levels, trends in forms of labour requested and projected demand. In addition, the central office in a supplier State will maintain all essential links with supplier State bodies, politicians, bureaucrats and local employers (if need be). It also "projects" propaganda at its "supply source" in order to make easier,and cheapen securement costs of,the "flow" of labour to its depots. This is an exercise in "image management" which has been made considerably easier of late by the rise in the CM stipulated wage minima on mines.

An important function relates to the initial screening of applicants for jobs. Not all who arrive at the depot are instantly employed. A primary selection process is undertaken in the supplier State before expenditure of monies to get the prospective miner to South Africa where further and more rigourous criteria may be applied. Certain age groups are for the most part specifically excluded, e.g. those over 40 years who are considered "too old". So too are the infirm, the feeble-looking, criminals, those with current records of contagious disease, and persons who are seriously under-weight or "too small" in size.

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some manoeverability in bargaining. And, perhaps in the longer term, surpluses can be used for minimising the pressure to upwardly adjust wages at a rate in excess of changes in the consumer price index.

The control of expenditures not only has relevance for the charges levied in the "Labour Charges Pool Account" but also for the broad shuffling of "budget" or "target" requirements between supplier States and depots. In a sense, a degree of "optimisation" is sought here but within broad strategic considerations. Thus although "cost per recruit" can vary greatly - up to R40 at some local depots but often more in far-flung States - different area "budget" targets do not merely reflect such levels of efficiency. A desire for "spread", maintenance of a large number of supplier States in order to enable a wide distribution of the demand for foreign labour, and security of inflow, are factors which dictate a more cautious and constrained supply policy.

The overall "insights" of 78 years of operating experience do not eliminate the existence of problems for the MLO in its securement of foreign and local labour supplies. Certain basic problems do exist for all its sub-divisions, from Head Office to the depots.

Firstly, the establishment and maintenance of depots involves fixed investments in buildings and an element of variable cost depending on staffing and "throughputs". Often, over a period of time, these are adjusted to the "historical record" and little new investment and capital or outlay of finance may be required. But, as in recent times of flux in the labour supply pattern, major shifts of investment funds have become necessary. Nonetheless, the MLO has been (wisely) reluctant to instantly abandon facilities when supplies have dried up, e.g. in the case of Malawi where the MLO has maintained "unused facilities" since April 1974 when Dr Banda cut off the flow of contract labour to the Republic and Rhodesia. If the "planned" inflow of 20,000 Malawians in 1977 is realised, the "care and maintenance" policy will have been fully justified.[10] Even if it is not, the investment will have been unavoidable for at least a short-term period, if viewed in strategic cost/benefit terms. Indeed, the MLO has always been prepared to "sit such situations out" over lengthy periods of time. Thus, for example, the MLO kept its links with Tanzania until 1970 even though President Nyerere had banned recruitment in 1961. The "final blow" was the expropriation without compensation of the MLO's last property at Tukuyu.[11] On the same principle, the MLO can be expected to maintain

At the point of recruitment, relatively simple tests have been used for selection. However, they have been found to have an implicit scientific basis. Thus the Chamber's Research Review (1963) reports that the weight/ categorisation method used for many years has had some logical validity.[7] Those placed in Category A (130 lb minimum weight) almost all had sufficient "working capacity for moderate rates of work."[8] But it also brought out the fact that there might have resulted "considerable wastage among the men assigned to Category B, that is, men of less than 130 lb weight, because about 85 percent of these men proved to have adequate physical working capacities for moderate work".[9] Nowadays, however, standardised mine wage minima do not themselves reflect categorisation (or weight). For this reason, it has been all the more important for the MLO depots to pre-select on an implicit or explicit height/weight basis.

The MLO organisations in supplier States must also keep records of recruitment, expenditures, deferred pay, repatriations and a number of other indicators which enable an informed assessment of problems of the system's performance.

A major concern is to fulfil the "budget" or "target" set by Head Office planners. These are annually allocated between different supplier States and form working guidelines on short-term policy. They are also intensively discussed at Annual Conferences of the MLO. Of course, too, "targets" are designed to fit into overall strategic supply conditions and the latest data on projected trends in industry demand. Some flexibility is also allowed in this quarter, the "success" of one area being used to offset (perhaps localised and temporary) problems in another area. It is also more and more pertinent these days to observe that the MLO does not appear to operate in such a way as to "flood" mines with supplies with the purpose of "driving down" wage rates. More typically, and in a fashion more appreciative of the requirements of large-scale corporate planning, the wage exists as a pre-condition of recruitment, supluses arising for reasons other than "high wages". Indeed, the existence of "localised surplus", sometimes of considerable magnitude, has not simply translated into an action by the CM/MLO to cut wage rates directly. Such surpluses can be systemically"functional" in other ways. They enforce "discipline" amongst contractees, give greater opportunity for productivity-geared selection at the point of recruitment, enable "repats" to be easily replaced, provide "leeway" in planning,and enable a reduction in the feasibility of inter-State collusion against the MLO as employer by providing some manoeverability in bargaining. And, perhaps in the longer term, surpluses can be used for minimising the pressure to upwardly adjust wages at a rate in excess of changes in the consumer price index.

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Secondly, most depots and central facilities in supplier States have short-term capacity constraints. This makes instant re-allocation of supply quotas difficult but, as time goes by, progressively more manageable. Hence, problems in one supplier area can usually in the longer term be overcome by the re-deployment of personnel, investment funds, finance and "budgets". With the development of labour surpluses in most supplier States, as well as much flexibility in South Africa itself, this strategy has become more feasible compared to past periods in which MLO recruited on the basis of locally uncompetitive wages.

TRANSMISSION BETWEEN DEPOT AND RECIPIENT STATE

The transport of recruitees from depots to South Africa is a cost financed by the MLO. Differences in costs between supplier States exist, reflecting various considerations, and make for a variegated cost structure applicable to this component of the labour supply system.

Some workers travel by rail on tickets bought by the MLO (e.g. Basotho); others go by air (e.g. those formerly from Malawi and now from Rhodesia). For these latter purposes, the MLO operates an air network of 6 aircraft - Wenela Air Services - which up to 1974 had flown 1,833,454 passengers a total of 1,092,310,508 passenger miles, making it one of the most important air networks on the continent.[12] For infringements of air monopolies - e.g. in the case of Air Rhodesia's franchise - Wenela pays a levy of $RH 5.00. In other circumstances it has made use of national airline facilities, e.g. Air Malawi, and of course airport facilities, not to mention a special terminal facility at Jan Smuts. For various reasons plans have also been made to fly recruits from Maseru to Welkom as well as from internal supply sources (e.g. Umtata, Kokstad and N. Natal).[13] The advantage of air travel is found in savings in time, during which prior to employment workers are "unproductive"; but naturally the practice raises nominal travel costs, especially given recent price rises in aviation fuels.

A less regular transport "flow" relates to "incidentally repatriated" workers ("repats" as they are known in the "trade"). However, historical experience has become a good guide in such matters, the levels being "predictable" within a certain margin. Nonetheless, on occasions problems with the repatriation of strikers,workers "walking-off" the mine etc., have arisen. Repatriation is a liability of the MLO under inter-State agreements.

BUREAUCRATISATION AT THE RECRUITMENT DEPOT

Contractees, many in number, attest under signature or thumb print (though the latter is always otherwise required, regardless of the recruitee's education). Significantly, contracts are standardised and each contractee is processed through a medical examination under the ILO Convention for mineworkers, which involves a mandatory but not legally required act of public stripping (at least in the case of Basotho from Maseru).[14] This test is usually minor, being restricted to heart-beat monitoring. Here too, credentials relevant to the supplier State are checked and details noted. Travel documents (e.g. the Rhodesian Worker Travel Document) are also issued and put in order. The recruit is then listed, numbered and noted in the bureaucratic record. He is subsequently transported, or given the necessary requisites for securing transport, to South Africa where further processing is also required.

MEDICAL EXAMINATION AT JOHANNESBURG AND WELKOM

Recruits go to the (Mzilikazi) mine labour hospital at Welkom or to the Johannesburg centre - the central depots in South Africa for processing incoming mineworkers. At these places, a major requirement is the (second) medical examination, consisting of a physical, X-Rays and fingerprinting.

Attitudes of miners to this process have been described in recent studies, negative comment being directed at "rough handling", the nature of the physical and conditions for fingerprinting.[15] Much attention has been directed at the mass "public stripping" demanded of recruits. There is no doubt that such practices, where they take place, can only be considered as adjuncts to the exercise of social control over labour and as acts designed to subordinate the worker to the power of the agents of his employing authority. Nonetheless, a more significant rationale can be found for medical examination, whatever its format.

A basic and specified condition of health is sought in workers, and, in addition, this must be found in that segment of the labour force which exhibits particular demographic characteristics. The medical examination is a screening process facilitating identification of states of health as well as the extent to which applicants meet a pre-planned and specified labour demand. The usual standard requirements are a minimum weight of 50 kgs, age of 18 years (but usually below 40 years, dependent on physique) and X-Ray clearance for TB, other contagious diseases, pneumoconiosis, epilepsy, or "mental defects" and deficient lungs.[16] Rejectees are either repatriated (in the case of severe cases) or, in the case of about 30-40 percent of "rejects" are offered surface work to which lower rates of pay apply. Surface basic rates in 1976 were 64.4 percent of underground rates. The test thus fulfills a critical "allocative function". Whilst the effect on productivity compared to "indiscriminate placement" would be difficult to calculate, it should not be considered unimportant. In times of "shortage" or periodic crisis, criteria normally adopted are relaxed. They may also be qualified in the case of recruits from certain areas; e.g. the diminutive size of certain Botswana workers has not deterred the MLO's interest in their labour supply. Such an approach provides the MLO with a minimum degree of flexibility.

The weight criterion has also been found by CM researchers to closely correlate with maximum oxygen intake, which determines the underground labourers' capacity for physical work.[17] Oxygen intake rates of 2.5 litres/minute are reckoned to be needed to carry out tasks such as shovelling, tramming, timber transporting, and so on. On the basis of one sample, CM researchers found an intake level of 2.24 litres/minute in 80 percent of persons below 110 lbs. in weight. Even with "normal" weight gain (of around 7 lbs. per contract) as usually occurs in the first few months of contract, 66 percent would still not meet the requisite performance criterion.

The age criterion of 18 years has been set under the Bantu Labour Regulations Act. However, this writer has personally viewed contract forms in Wenela's Salisbury office for contractees below that age.[18] In practice few Africans in supplier States have birth certificates. Other subjective criteria are thus used. From data, CM research has deduced that the average 18 year-old African "should weigh" 124 lbs. and, after allowing for a normal statistical distribution, should not fall under 110 lbs. This latter index is thus used as a proxy for age. In 1975 it was estimated by Hudson that the average age was 32 years.[19]

The economics of labourers' health and the equation with productivity - given that recruitment has by this stage involved the company in a fixed cost- is of great importance to the industry. During contract, health is regularly monitored;[20] ill persons are sent to hospital for recuperation;[21] large sums are outlayed on medical research; and attention is given to trends and the effects of health conditions on labour productivity. This attention also embraces a monitoring of accident incidence, attendant hospitalisation and resultant shift losses.

The costs to the industry of an unhealthy, accident-prone or under-strength labour force manifest in a number of ways and not only in shift losses, e.g. higher hospital costs, spread effects in the case of contagious diseases, increased compensation liability, etc. of admissions to hospital for illness in the 1971-74 period, 22 percent were for Upper Respiratory Infection (an "expensive" disease) and another 10 percent involved (high-cost) surgical treatment.[22] These costs cannot be insured against, nor can immunisation be effective in these quarters. Indeed, in data provided to the writer by the Medical Research Adviser of the Human Resources Laboratory, in 1974 alone 1.5 million shift losses were recorded from a labour force of 394,000 workers, 926,000 being for illness - the rest a consequence of accident. Since the potential shift level for that year was approximately 100 million shifts (calculated on the basis of 250 shifts per annum per worker and after allowing time for training and acclimatisation), the loss was not insubstantial. On the basis of labour securement cost alone, it can be calculated at about R400,000; in terms of the value of the proceeds of lost production it would be many times this amount.

CM health policy has thus been firmly based on profits considerations. Its medical examination process has been an integral and scientific component of this policy.

ACCLIMATISATION: "THE HOUSE OF SATAN" AND THE MAXIMISATION OF WORK CAPACITY

The medical tests completed, and the division of labour between African workers effectively designated, recruitees move to the point of production.

Here a third medical examination is conducted, again, so it is reported in some cases, with the requirement of mass public stripping.[23] Injections are also given for purposes of immunisation.

Usually, too, a period of time is spent on training, viz. learning the lingua franca of the "mining complex" (fanakolo), receiving safety instructions, becoming acquainted with the "rules of the mine", and being subjected, according to some observers, to a certain degree of ideological conditioning in respect of the inculcation of pre-defined "work relationships and behaviour patterns."[24]

All this has been preceded by an allotment process according to expressed individual mine demands for MLO labour supplies. "Volitional options" do not play a part in this process and allocation is largely a function of certain "ethnic mix" requirements of mines, periodic demands and localised shortages.

The most significant on-site procedure is "acclimatisation" for the group pre-determined as underground labourers, roughly 300,000 in number each year. Ramahapu, for instance, has described the procedure as "innocent and recommendable but if we probe deeper ... it is a device of social control".[25] Its objective is to accustom workers to heavy labour under the onerous heat conditions which exist underground. A two-stage process, the first is of five days'duration and the second of three days - being restricted to those who only go underground occasionally, e.g. African Personnel Officers, and those who work where ventilation is good, e.g. policemen.

Acclimatisation consists of trotting up and down onto a step about one foot above floor level, the height being adjusted to one's weight. Stepping rates vary from 1560 lbs./min. on the first day to 3120 lbs./min. at the end, while the process takes place for four hours at a time throughout the period in a room (known as "The House of Satan") heated to 34^{o}C with a wind velocity of 100 ft./min. Stopping leads to the penalty of re-starting. Ramahapu claims the process is used to inculcate "docility and submissiveness".[26] Whether so or not, it does appear to be widely resented by workers, especially when work is also required immediately thereafter. And, it has a stabilisation component attached to it in that, in order to avoid acclimatisation, workers will apparently stay longer on the mine as well as return earlier after contract expiration because, if they do so, acclimatisation is restricted to the shorter second stage.

The significance of acclimatisation for African miners is appreciated when it is noted that it applies to the bulk of recruits, especially foreign workers. South African miners have for many years tended to avoid underground jobs (see here Table 4). On gold mines about 20-25 precent of jobs are on the surface. On coal mines, the average proportion reaches around 30 percent.

On some deep-level gold mines the proportion of underground to surface labourers may be even higher than indicated in Table 4. The costs in terms of deterioration of health and loss of productivity thus arising from inadequate acclimatisation can thus be considerable.

An important subsidiary "allocative function" is fulfilled by acclimatisation, viz. that of defining maximum depth levels appropriate to various underground workers. This provides another example of sub-system optimisation in the division of labour and job-allocation process on the mines.

The importance of acclimatisation has not been lost to the CM which has spent years of research and millions of rands investigating the issue.

"Heat Studies" have been a major focus of research initiatives. Such research was behind the development of on-surface acclimatisation facilities which enabled its integration with job-technique learning, safety courses and "language familiarisation". The personnel and facilities of the South African Institute for Medical Research are harnessed in these endeavours.

Research has covered a wide range of issues, most connected with productivity considerations, for example, the following:[27] (1) the extent to which the avaiability of drinking water underground will affect physiological condition; (2) factors determining the incidence of heat stroke like the percentage of novices in an intake, the intensity of acclimatisation, the length of shift (it increases up to 6½ hours after the start of a shift, the incidence rising with shovelling and tramming and the transfer of men from light/low temperature to hard/high temperature jobs); (3) loss of acclimatisation because of absence as a result of sickness or leave (30-40 percent of the effect being lost within the first week and 80-90 percent after 6 weeks); (4) effectiveness of acclimatisation procedures; (5) appropriate procedures for (the cheaper process of) surface acclimatisation; (6) the increased work capacity due to (the now demonstrated superior procedure of) surface acclimatisation (the proportion of men who could be allocated to "hard work such as shovelling and tramming rock" rising from 14.6 percent to 29.6 percent as a result of surface procedures and the proportion who could only do "light work" falling from 21,1 percent to 7.4 percent); (7) minimum periods required to effect acclimatisation (this shown to be 4 hours for 9 days (in 1967) on surface procedures whereas it used to be 5 hours for 12 days on underground procedures); (8) the acclimatisation of underweight workers (i.e. below 50 kg), even though men with oxygen intake levels below 2.5 litres/min. should not even undertake acclimatisation (indeed only 11 percent of such men are capable of "hard work");

(9) the reduction of time for acclimatisation; (10) age and heat stroke (older men being more susceptible - and for which reason the proportion of men over 40 years is less than 10 percent); (11) age/weight relationships and work capacity, showing that some of the subjects of a sample who were of a weight less than 46 kgs and an age in excess of 40 years had a maximum oxygen intake level high enough to permit them to work moderately hard underground; (12) the optimum division of labour and individual allocation (thereby enabling those workers with "low oxygen intake levels" to be put onto low-paid and light surface jobs like sweeping, so maintaining overall productivity); (13) the identification of apparently "heat intolerant" men and modified acclimatisation procedures in respect of them; (14) the design of micro-climate jackets (in lieu of conventional refridgeration on certain slopes); and (15) the effects on productivity and heat stroke risk of a longer working shift (a matter which has become important in the light of a prospective 5-day week, one finding being that "good supervision" is critical for the last hour).

One overriding conclusion can be made from the above, viz. while the effect of "managed acclimatisation" or productivity and profits has been and is likely to be vital to the industry, the requirements are such as to significantly pre-pattern labour demand considerations, making essential the existence for the industry of a "relative surplus" of "eligible workers".

THE CONTROL OF LABOUR-TIME ON THE MINES

Once workers are involved in production, it is essential for the mine to maximise the volume of labour-time supplied and to ensure optimum utilisation of available time.

These demands call for a sophisticated managerial structure, the essence of which has been built up in the "mining complex" over decades. It might be inaccurate to say this aspect of management had been "developed to a fine art" but only because, on the contrary, it has become an increasingly "scientific element" in overall managerial strategy.

The major mining houses and the CM now have fully developed personnel departments. AAC, for instance, has had a personnel consultant since the end of 1972.[28] The essence of this corporation's successful and much changing strategy has been crystallised by its Employment Practices Committee since March of that year. Similar structures have existed in the De Beers Group, to which it is "related". Intricate job evaluation exercises have been carried out as well as other investigations.[29] The centralised character of the mining house system permits significant economies of scale in this quarter as a single carefully articulated set of policies can become easily and rapidly translated into each corporate subsidiary of the group. The power of personnel executives is thus not to be under-rated.

In fact, concern with labour strategy of this kind is not a new phenomenon, as a key industry spokesman W.D. Wilson has correctly reported.[30] Work in this area was begun in 1950; surveys were commissioned in the 1960s; and recent initiatives have much expanded the scope of monitoring and analysis. This work, together with that of the CM, provides an essential underpinning for managerial control of labour-time maximisation and utilisation in the "mining complex."

The control of on-mine labour time broadly covers: (1) the "selective adjustment" of the composition of the labour force; (2) stabilisation policies; (3) control of the "working week"; and (4) the minimisation of shift losses.

"Selective adjustment" of labour force composition may take various forms. Some are extensions of more generalised industry policies. Thus "absconders", i.e. persons breaking contract, are selected out for penalties. Usually, workers away from work for 6 continuous days are instantly discharged.[31] If they attempt, at a later stage, to return to other mining employment, they may be caught in the records system. Third offenders are "blacklisted", the penalty being the denial of employment. Alternatively, some MLO officials even give "third offenders" a chance, but require them to pay their own transport to and from the mine, a receipt for which after contract expiration will entitle the worker to a refund. In these ways, stable labour is encouraged within the vicissitudes of the migrant system. With a growing element of urban recruitment, levels of abscondment have risen and policies for control in this area have become more important.

Another "selective adjustment" policy relates to the "weeding out" of "troublemakers". Ramahapu, for instance, has claimed that elements of victimisation do exist on mines, for the purposes of social control.[32] Policies of "instant discharge" may be seen as a means <u>pour encourager les autres</u> and as a mechanism to discourage "loafing". The mines, for their part, view it as a legitimate defence of their interests in the face of contractual violation.

Perhaps the most important policies, however, relate to the stabilisation of labourers. Should labour-time provided per contract increase or should the efficiency of utilisation of such time increase or, indeed, should the average contract period lengthen, so in a related measure will the demand for labour be met by fewer workers and lower fixed recruitment costs. By implication, because of the rising South African component of African labour supplies, this will translate into a reduced demand for foreign workers. This appears a net result if not an objective of stabilisation strategy.

Stabilisation policies designed to secure these objectives take various forms. In effect, they take account of the transitional necessity of "differential stabilisation" of the various segments of the labour supply as well as structural constraints existing at the present juncture.[33] The necessity of stabilisation within the confines of the continuation of a slowly-changing migrant labour system is explicitly recognised within the mining industry. The Presidential Address contained in the 1975 CM Annual Report, in commenting on newly introduced stabilisation incentives, notes pointedly: "(These) will enable us to ensure greater stability within the migratory pattern".[34] The strategy had even been enunciated the year before: "Inevitably the bulk of mining labour will remain migratory for many years to come but it is hoped that a core of stable South African employees can be built up on longer life mines."[35]

The implementation of such a strategy has obvious implications for foreign labour demand and supplier States. For individual supplier States, demand might be affected by inter-country variations in average contract length.[36] Further, the amendment of contracts by the Gold Producers' Committee in 1972 to relate them to calendar months rather than shifts worked - the previous basis - has enabled the introduction of 6, 9, and 12-month contracts as well as 4-month sojourns for workers under the AVS.[37] This "contractual flexibility" enables better "tapping" of supplies by more closely articulating contractual opportunities with supply conditions. Significantly, though, the greatest standardisation of contract relates to the market for foreign labour supply. The need for more variation has grown more acute with an increase in the South African labour content.[38] Yet nearly 75 percent of South African recruits are reported to return to the mines, the balance dropping out of the system.[39] Perceiving this point, the CM has investigated and adopted procedures for lengthening stays, providing inducements to early returnees as well as "streamlining" re-entry to avoid duplication of training costs and acclimatisation requirements. The growing core of stabilised workers - many possibly urbanised or landless with more education - is largely a localised supply which the CM wishes to see as the "more skilled" component of the total labour supply.

The advantages of this to employers is obvious, especially in an industry like gold which is prone to rapid price fluctuations. Recessionary conditions could thus relatively easily be accommodated by adjustment at the (foreign) unskilled level combined with re-deployment of the (local) semi-skilled workers, the latter thereby being readily available for up-grading during expansionary times. It would however be inaccurate to believe that semi-skilled or higher-paid workers are necessarily stable vis-a-vis mining. Mauer, for instance, sampled "Boss Boy" contract experience in 1972 and found that while 58 percent had had 3 or more contracts behind them, a "tapering off" of experience occurred after 6.7 contracts.[40]

One constraint on the rapid increase in settled labour has been the long-standing government restriction requiring that no more than 3 percent of married workers be located permanently at the mine. In the 1950s the mines had pushed for a minimum 10 percent level, but this had been refused by the then Minister of Native Affairs (Dr H.F. Verwoerd), the lower level being stipulated (so the mines argue) for "political reasons".[41] Indeed, for various reasons, not adequately yet explained, the mines had (by 1975) not even reached this 3 percent level.

Other stabilisation initiatives have centred around wage adjustment strategy, higher levels permitting (though not guaranteeing) greater stability. Also on the payments side, moves towards monthly payment and pension or provident fund provisions have tended towards the same effect. However, these two changes are not yet widely dispersed in the industry. Reliance is thus still placed on an ancilliary effect of the Deferred Pay Scheme for foreign workers. The deductions are paid "at home", at the expiration of contract. Breach of contract can thus involve the worker in forfeiture of a considerable element of earnings as usually 60 percent of basic rates are compulsorily deferred in the case of foreign workers.

The tendency of management to want to lengthen the working day exists in the mining industry as in others. However, the basic constraint of maximum work capacity and work-time underground, at inordinate heat levels and high wet-bulb temperatures, limits opportunities. (Nonetheless, the CM has researched the implications of extension to shift lengths).

Consequently, managerial wishes to extend working-time have been expressed in the insistent maintenance of a six-day week in the industry. Opposition to this scheme has primarily arisen from strongly unionised white labour interests which have sought the generalised introduction of a 5-day week. The issue has been "on the boil" from at least 1970 when the CM noted its objections, saying that "with the existing labour pattern (it) would call for heavy initial capital expenditure and would result in a sharp increase in working costs."[42] In particular, it would be necessary to maintain and operate more work places, increase hoist capacity and provide additional storage bins for ore if production was not to be impaired. Further, it would "create", or more properly aggravate, the "skilled labour shortage".

With recessionary conditions linked to balance of payments problems and a decline in the gold price after 1974, the CM's position for not introducing the 5-day week has in some ways been strengthened. However, organised unionism has had powerful political leverage in the matter and has been able to secure agreement to the scheme in principle. Because the quid pro quos of the "deal" have not been fully struck or enunciated, it appears that its introduction may lead to some further wage stratification between African labourers and other semi-skilled workers (e.g. artisans aides, non-certified operatives, etc.). The prospect of it reducing African earnings has not, it would seem, been publicly raised.

Attempts to extend labour-time and stabilise labour supply through the minimisation of shift losses have concentrated on various areas. The basic requirement has been that miners, in fulfilling contracts, complete a minimum shift load in a year.[43] The promotion of safety on mines can be viewed as contributing in this area. Fewer accidents mean fewer shift losses and lower working costs for the mine. Minimisation of hospitalisation rates has the same effect as does the cutting down of the duration of stay in hospital.

RAISING THE "QUALITY COMPONENT" OF LABOUR-TIME

Various factors are leading towards a restructuring of demand and the need for a larger relative component of labour-time provided in the form of semi-skilled labour: mechanisation policy; the phasing out of older mines from the industry (these generally being more labour-intensive in character); and the development of sub-sectors (e.g. copper and zinc) in which open pit works are possible and which can be more easily mechanised than deep-level gold mines.

To meet this supply need, the CM has had various options. It has chosen not to rely too heavily on State provision of technical training and has itself begun to invest more substantially in on-the-job and on-mine training facilities. It has also become more selective in its intake policy. New recruitment areas, e.g. Rhodesia, now supply a largely literate labour supply with a number of years educational experience.[44] As a consequence, today about 61 percent of workers are literate.[45] Most importantly, the CM has its own "skilling" programme. Training is now provided for team leaders, technicians and artisans' aides.

One objective here is the reduction of labour costs through the substitution of production systems requiring more lower-cost semi-skilled than higher-cost supervisory labour. A pre-requisite is of course an adaptable "floating colour bar", something which has been more difficult to achieve in practice than perhaps the Chamber had envisaged in the past.[46] In the absence of such formal re-division of labour, the industry has sought and obtained a reclassification of artisanal work.

The restructuring of demand has ominous implications for supplier States "locked" into the contract labour export syndrome. In some, educational outlays are too small to produce a highly educated labour force. If allowed to emigrate en masse, such a skills exodus would create domestic shortages with attendant disruption of development plans in the form of retarded localisation policies, higher wages for some of those who remain,thereby skewing income distribution patterns and deficiencies. On the other hand, those recruited will tend to exclude not only the aged, the infirm or those of marginally "unsatisfactory health", but also increasingly the unskilled and/or uneducated. All this has been made more certain by the demonstrably higher wages pertaining to mine work in South Africa compared to "opportunity costs" facing prospective migrants in supplier States.[47]

WAGES AND SUPPLY: LOCAL AND FOREIGN

Wage levels and rates directly affect labour supply. In the case of the mines, rising minimum and actual wages have since 1970 radically altered the "labour reserves" upon which producers can draw. Incursions into "traditional supply zones", of competitors to mining capital in both South Africa and peripheral States, have been largely a function of restructured wages and earning opportunities. The factors behind these wage trends, and data on wage rates, have been examined elsewhere.[48] Despite the fact that higher real wages have caused wage cost/total expenditure ratios to rise, for the industry as a whole, this does not necessarily imply a higher labour cost, since the changes in the ratio must be set against changes in productivity associated with the re-defined levels. There is no easily defined and wholly acceptable measure of productivity change but crude indices, like metric tons of treated gold per employee over time, indicate that productivity has probably risen in the 1970-75 period.[49]

In any event, the maintenance of productivity levels could be considered "good performance" for older mines in which ore-body grades are falling or in which access to ore is becoming progressively more difficult for man and machine alike. And, in the final analysis, there is no simple, or possibly even acceptable, method of disembodying causes "in order to apportion changes in productivity levels between different "factors".

The quest for productivity increase has not been a random one. This has been evident in the CM research programme which has embraced the following _inter alia_: (1) assessments of maximum work levels per shift and motivation for maximal physical work (including endurance capacity, work conditions and work output, the work capacity of "light-weight Bantu recruits" and weight/work capacity differences of urban and rural recruits); (2) the mechanical efficiency of shovellers (it being found that narrow stopes limit movement and cause a high energy expenditure); (3) the probable effects of an extra hour of work (it being found that the decline in work towards the end of a shift is an important safety factor and that the returns to an extra hour worked would be the lowest of the shift); and (4) gang productivity and variations.

It has not only been in the sphere of productivity though where wage rises have had significance. They have in effect guaranteed the CM's affiliates a larger share of the local supply of labour quite apart from being a strategic necessity for local recruitment and the establishment of hegemony amongst employers of unskilled labour inside supplier States. Indeed, at the present level (of around R101 cash and R40 "in kind" on average in January, 1977), there is much likelihood that such dominance will be maintained in the medium-term future. For this, as well as profit and cost considerations, it can be expected that the rate of wage increase will now diminish, being more attuned to the wage rise needed to secure the strategically defined South African component desired by CM/MLO planners.[50] The growth of unemployment in South Africa makes this task easier at lower wage levels than it would be in times of "full employment". Of course, too, technical transformations, eventually enabling higher productivity, could themselves also play a part here by tending to reduce the demand for labour. In as much as foreign "labour reserves" are first affected, supplier States will reap a disproportionate share of the adverse consequences.

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SOCIAL CONTROL AS A NECESSITY?

Whilst the conditions of labour and subsistence found on the mines do not only relate to foreign workers, they are sufficiently important to bear mention in regard to the question of the use made of labour-time and control exercise over non-work periods between shifts. In a sense, the tough regime of mine work - of constant, regular shifts of hard labouring - probably makes more difficult the social control over labourers when also low-paid. Even with higher wages, such a "problem" remains - if only because of the character of the compound system and the conditions of life it defines. Extra-compound conditions - social, political and otherwise - most likely aggravate these tensions.

Recent studies have focussed on these various internal compound conditions which, despite higher wages now compared to (say) 1970, remain for the most part structurally unaltered. Food, although medically-assessed for nutritional balance, is reportedly "mass produced" in an unattractive form and in an uncongenial setting.[51] The compound system of male-dominated "labour batteries" still dominates every aspect of mine life. Entrances and exits are normally "guarded". During disturbances even personal movement may be circumscribed. Housing - except for some mines - remains founded upon a basis of ethnic and lineage division and hence a source of intra-worker factionalism.[52] The "Boss Boy" or Induna system still operates to mediate worker/management relations, though in some groups incipient, probably ineffective "works committees" function. But these nowhere approach trade unions or the minimum requirement of democratically articulated representation. Mine violence is still prone to erupt without much warning as to time or place, and to last for an uncertain duration. The "rapport" between workers and supervisers remains largely cemented to "traditional" stereotypes of submissiveness found in the "baas/boy" syndrome. Resistance, the organisation of labour or criticism is largely frowned upon if not seriously dealt with in one form or another. And, all this despite a massive "Humen Relations" effort in research and redefinition of policy.[53]

It would seem then that the social controls typical of the past remain enough in evidence today to still warrant some support for the view that "extra-economic" measures remain necessary to production conditions and social relations in the "mining complex." Reformism thus far does not yet appear to have "cracked the nut" at the core of the system of "primitive accumulation" with which the mines have for so long been associated.

DISCHARGE, "DISPLACEMENT" AND THE "RECYCLING" OF LABOUR

It is an axiomatic consequence of contractual arrangements for mine employment that discharge rates may be effectively "planned for" and entered into the calculus of labour strategy. Policy on discharge is thus as important as is policy on recruitment. Equally so is the policy of (foreign) labour "displacement" which accompanies discharge. Less within the total control of mining capital, however, is the pattern of "recycling" of labour supplies, viz. the recruitment of the same workers on a continuous basis over a (often varying) series of contracts. But the CM is able to influence this pattern.

It is to a policy of trying to ensure "optimum recycling patterns" that the mines have now turned their attention. In theory, it would not necessarily be the cheapest solution to "recycle" into employment all those workers previously discharged. Some will be getting "too old", others "less healthy" or, for some other reason, may no longer offer the same potential work capacity. But, logically from the point of view of mining capital, it is cheaper to recruit "experienced hands", especially if the return to employment closely follows upon the previous discharge, if only to reduce time needed for acclimatisation requirements. Inducements to discharged labourers to encourage their return thus seek to mould supply patterns around or close to this optimum perspective.

II MLO/CM FOREIGN AFRICAN LABOUR SUPPLY STRATEGY IN THE 1970S

Beyond mere policy lie strategic considerations which, in the case of the CM/MLO, can be distinguished by the fact that they are largely concerned with labour supply issues outside of the "mining complex", dealing with the fundamental cornerstones upon which policy rests. Strategy is moreover concerned primarily with longer term perspectives, principally those focussed on critical high-change areas. They are also issue which usually overtly touch upon social, economic, political and ideological factors.

THE POLITICS AND DIPLOMACY OF INTERNATIONAL LABOUR SUPPLIES

The wheels of the labour supply system require to be "oiled" by political and diplomatic accords. The statements of mining house chiefs almost always contain sections dealing with political events - whether they be on race relations, stability or detente.[54] The CM maintains an extensive "guest list" each year. Notables have of late included Dr H. Banda, the Minister of Mines from Rhodesia, the South African Prime Minister, officials from labour ministries of various supplier States, the Malawian Minister of Finance, and editors of newspapers. Indeed, as leading mining industry spokesman Mr H.F. Oppenheimer has said in recent times, the success of recent detente policies has a vital bearing on the mining industry. "Behind the scene" contacts have also been vital, exchanges taking place directly and through third parties with the Malawian President (since the withdrawal of labour supplies), Frelimo (in the post-coup period) and the MPLA in Angola.[55] Indeed, this is "standard policy" for the MLO/CM which seeks wherever possible to maintain "good relations" not only with supplier States but also potential suppliers, as e.g. Zambia, Tanzania and Angola.

Internally, the political connections have probably been even more overt. "Homeland" leaders, e.g. Chief Gatsha Buthelezi, have been industry guests and appear in films shown to potential recruits in supplier areas.[56] Gifts have been made to various "Homelands" e.g. the Transkei on the attainment of "independence". This has really only been an extension of previous policy, e.g. the K2000 donation in 1971 on the occasion of the conferment of Life Presidency on Dr H. Banda for "the establishment of the Kamuzu Foundation in Malawi".[57] These, too, are over and above the close links the industry keeps with the local power elite, its officials and key groups.

Just how necessary such political connections have been is difficult to assess. The industry at least thinks them not unimportant.

THE MLO BUDGET AND OBJECTIVES (FOR 1977)

The mechanics of international labour supply strategy are each year crystallised into a "budget" and set of objectives for the MLO organisational apparatus.

The objectives are established not only in terms of broad principle but also in "budgeted" volume terms, i.e. the numbers of recruitees to be obtained from each State and area. "Targetted" totals are closely matched to expected production needs as assessed in the light of mineral price trends, expansion in capacity because of investment expected to come "on-stream" and other relevant considerations. The function of the plan is to inform key officials and provide a workable guideline for MLO's own investment/dis-investment decisions.

The MLO Budget and Objectives For 1977 provides a good indicator of the planning perspective and strategy of labour supply considered at the international level.[58] The plan was, in brief, to:

1. Recruit from and maintain relations with as many supplier sources as possible:
   - (a) increase the proportion of South African/Transkeian recruits from 171,000 to 198,500 and from the BLS States from 118,500 to 139,000 (i.e. from 46 percent to 50 percent for South Africa/Transkei and from 32 percent to 35 percent for BLS)
   - (b) balance the mix of foreign workers and maintain supply potential at the 110 percent level
   - (c) where possible maintain relations with previous suppliers, i.e. Angola, Tanzania and Zambia
   - (d) apply country limits: Mocambique 30,000; Rhodesia 25,000; Malawi 20,000
   - (e) maintain cordial relations through donations policy, visits of Homeland leaders, public relations and films of the industry.

2. Increase the stability of the black labour force by:
   - (a) reducing wastage and turnover
   - (b) maintaining "job spread" over the various categories
   - (c) better selection
   - (d) linking research on labour to industry needs
   - (e) promoting industrial relations
   - (f) standardising agreements
   - (g) adjusting activities to reduce seasonal fluctuations.

3. Improve recruiting information and methods (e.g. by regionalising depots).

4. Minimise recruiting costs and obtain both acceptable capitation fees and a variegated intake mix.

5. Obtain a total recruitment level of 466,000 workers (1976: 453,000).

Various principles underlie the plan. Firstly, the MLO seeks a "polyvalent" approach in that it tries to maximise the number of supplier States and distribute aggregate foreign demand across them as a residual after domestic recruitment targets have been set.[59] Secondly, the Transkei is to be treated as an independent supplier State, but one with a "special relationship" to South Africa. Thirdly, the MLO sets quota levels on supplier States, for various reasons. Fourthly, strategic-cum-political factors play a major role in the supply/demand determining process.

The plan is also accompanied by detailed costing and estimates of past and projected expenditures. All in all, it provides the essence of a highly articulated strategy.

STRATEGY ON "SUPPLY VOLUME"

The securement of required supply volume requires consideration by MLO of a number of shperes of operation.

The essential underpinning of the system rests in its negotiated inter-State contracts with BLS, Mocambique (stretching back to the Mocambique Convention in 1928), Angola (1973), Rhodesia (in 1974), and a "labour treaty" with the Transkei; informal ties with Namibia as well as local "Homelands"; and a prospectively viable but at present broken contract with Malawi. Further in the background are old "stomping grounds" such as Zambia (notably its Western Province) and Tanzania. There are formal agreements between the supplier State and the government in South Africa; but the latter more-or-less act as the CM proxy in these matters.

Foreign labour supply strategy is closely influenced by the success of the MLO's domestic policy. Apart from raising the content from local and rural labour reserves, the focus has recently been on three initiatives: the recruitment of women, urban recruitment, and the securement of a rising "offtake level" from the white farms.

The employment of African women is not only a local supply-fulfilling policy. It is also a policy of a cost-cutting character. The numbers have risen from 235 to 801 in the 1974-76 period.[60] These are mostly but not exclusively service jobs (teachers, switchboard operators, secretaries, etc). The CM/MLO interest in employing women stems from two factors: they are largely non-migrant, and hence more stable, and supply much exceeds present demand.

Urban recruitment has followed the government relaxation of restrictions on the requirement that after contract all workers had to be returned to "their homeland". Now 6, 9 and 12-month contracts can be offered to urban based workers. At present (1976), there are only about 1000 so employed.[61] However, with rising urban unemployment numbers could well increase substantially in a short period.

Recruitment from white farms has always been a contentious issue, the South African Agricultural Union (SAAU) and its members resolutely opposing such incursions into their "protected" reserves of labour. Recruitment in these areas has in the past been controlled through the issue of Labour Agent's Licenses to individuals. Since 1974, according to the Financial Mail, the NRC has applied for 200 such licenses.[62] By May 1975 an agreement had been reached between the CM and SAAU (with governemnt mediation) over such recruitment.[63] MLO agents could recruit but not "entice" labour away from farms. More recently, the policy has been restricted and now the SAAU and the CM are monitoring the effects of such recruitment in four districts to ascertain more precisely the degree of underemployment on such farms. The SAAU view is that there is litte, whilst the CM claims a massive degree of underemployment exists.[64]

Labour Bureaux officials at the very least appear to be assisting the SAAU/farmer lobby in certain areas, e.g. the Free State, through stopping young blacks who seek to leave for mine work by the non-issue of the requisite documentation.[65] Although the mines see the developing farm labour surpluses as an important prospective source - especially if "planned-for" agricultural mechanisation proceeds - there is little they can do in the interim, pending a basic political decision about allowing more "free competition" for labour supplies within rural South Africa. There is little doubt, should this come to pass, that the greater level of mine wages vis-a-vis farm earnings will "siphon-off" many thousands of Africans from the soil to the stope face. Such a development could well lead to a rapid rise in the proportion of South Africans on the mines and provide the basis for a further diminution in the relative demand for foreign labour. Indeed, diminished employment growth rates in capitalist agriculture, combined with natural growth of the on-farm population, could well make this one prospect realised sooner rather than later.

SUPPLY/DEMAND SYNCHRONISATION

Because, too, marked seasonal fluctuations affect labour supply, strategy has to account for means to ensure "full complements" in the industry as well as on individual mines. This is an extremely difficult "synchronising problem" which the MLO attempt to overcome by obtaining and retaining a "reserve cushion" of recruits (of the order of 10 percent over estimated actual demand) within the "mining complex". As long as labour recruitment costs are relatively low, such a policy can be afforded. The problem of ensuring availability in periods of declining recruitment, however, remains. Thus special attention is given to such matters by MLO officials.

The relaxing of recruitment criteria (regarding age, health and skill-status) is also another mechanism used to overcome "seasonal shortages".

Further, because of the more general excess of surface complement over underground requirements, room also exists for job re-allocation to play some role in this direction as well. For example, in mid-1976 underground strength was 97.82 percent of complement while surface strength was 107.92 percent.[66] Of course, by November/December the situation is usually more aggravated and substitution of the total "surface surplus", even if it were feasible, would not overcome the "seasonal underground shortage".

Various factors have contributed to this "shortage", more recent pressures being: a higher proportion of South African workers (whose access to land, if it is held or there is a usufruct, is more easily maintained or who can take shorter contracts); and the absolute and relative decline in supplies of Mocambican workers (who not only have a high average contract length but whose "seasonal inflow" has in the past acted as a "stabilising mechanism", because the East Coast inflow has tended to peak when South Africa and other supplier State outflows were rising well above inflow levels).

The concern with a "seasonal" fall off in supplies, to the extent it arises, is clearly rooted in the anticipated adverse effects on production and rates of utilisation of capacity of stopes as well as fixed capital. But, it is nonetheless difficult to maintain the precision the industry claims about the accuracy of its professed "seasonal shortage". Measures of "required complement" must in the end be based on a theoretical "composite index" of physical capacity, i.e. forms of labour required per stope, per superviser, per machine type, etc. This can seldom be 100 percent reliable, consistent or accurate. And, moreover, given the experience of the 1974-75 massive outflow of Malawians, and the only marginal dip recorded in output, there is room to doubt that a more reduced and predictable "shortage" such as a regular seasonal one, which affects suppliers much less on average, can be considered so serious for overall production. Indeed, it may be worth positing a different perspective, viz. that the temporary shortage experienced could be regarded as a necessary concommitant of a low-wage policy under conditions of migrant labour and hence only a marginal but essential cost for the system. The wage rises which might be needed to fully offset it would most likely have to apply "across the board" and hence would be expensive in net terms. In any event, if some stopes are not in use, it does not necessarily mean they are "unproductive", lying fallow as it were. Time is also needed for repair work, for maintenance etc. And, labour allocated to non-directly productive activities, e.g. the expansion of capacity, could be employed in directly productive tasks in such periods. It must further be remembered that the Xmas period is generally a slack time for many industries and a time during which many skilled/white miners will probably also take holidays.

As the CM/MLO seek to balance supply and demand, their concern is with both "too much" and "too little" recruited labour at any one point in time. It is because the phenomenon of "too little" labour" does directly impinge on output and costs that it receives the attention it does.

STRATEGY ON R & D, LABOUR SUPPLY, CONTROL AND PRODUCTIVITY

The Human Resources Laboratory (HRL) of the CM - which is concerned with statistics, productivity studies, organisation and methods, training and psychological research - and its six associated research divisions (in technology, environmental control, engineering, metallurgy, mining systems and research services) have emerged as a key element in the articulation of future labour strategy as well as providing for assessment of past practice. These are part of a massive Research and Development effort by the CM on behalf of its affiliates and, in the event, non-affiliates.

In part, expansion of work in this field is a response to the labour crises of the 1970s. First indications of the new approach came in 1974, when the Chamber announced its 10-year R150 million programme for R & D. In the 1974-5 period alone the CM Research budget rose from R5.2 million to R9.9 million. The programme's objectives are multifarious but include as key areas: better utilisation of labour supply and productivity growth; greater mechanisation; lower working costs; safer conditions with higher earnings prospects; longer life-expectancey for miners; better planning; and larger profits. There is little doubt that significant changes will result from this initiative.

With a sizeable budget, the HRL has been able to operate with a large staff of social scientists (two-thirds of the 55 posts in 1976 being filled by graduates). Through its Research Advisory Committee, it centralises the use of the best research manpower in the industry. Further, with computer facilities - onto which will in future be programmed a "Central Record of Service" for each miner who passes through the MLO's network - the industry will be in a vastly superior control position compared to the pre-1975 era. (Since 1971 the CM has been working on the project of establishing a "data bank" for raw data gathered in the past).

The research effort to date has been in many areas, most closely connected with labour supply. Forecasting models of labour demand have been studied, with only moderate success in terms of developing anything like a viable method.[68] Indeed, for operational decisions, models are not used. But they do help to concentrate research and thought around strategic variables. Demand models have also been bedevilled by "natural" corporate secrecy, viz. the reluctance of mining companies to fully disclose data on new explorations and on the drilling resuts of new ventures. Hence, output and demand have tended to be understated; this may account for some of the continued longevity of mines which analysts prior to 1971 had marked down for "extinction".

Researchers have also investigated local labour supply. Beadle has examined factors affecting the supply of goldmine labour;[69] Lawrence has looked at the experiences of Malawian workers;[70] Parsons has reviewed short-term supply determinants;[71] Hewitt has focussed on the perceived wage value of jobs as well as African production supervisors and the "drawing power" of different mines.[72] Work has also been done on migrancy and policies to induce stability of labour (cf. a 1976 seminar on the Stabilisation of Labour).[73] In addition, the CM has sub-contracted research of various kinds to eleven South African Universities (key ones in the labour field being the University of Natal and Rhodes University) as well as outside consultants.[74] Outside of the CM, the individual mining houses themselves also promote research on labour issues, e.g. in AAC and in Goldfields.[75]

A notable feature of research findings is their restricted circulation. Indeed, some reports, according to one source, are even restricted as confidential to confined upper-echelon aides of the CM and mining houses.[76]

LABOUR SUPPLY COST CONTROL

The MLO/CM pays special attention to labour costs. It is the fons et origo of high profitability in the longer term. For these purposes costs are carefully watched and budgetted, adverse trends being isolated for analysis and remedy fairly soon after deviation from projected expectations.

The major labour supply cost control areas are in the fields of recruitment (notably attestation fees), direct wage costs, indirect labour costs (i.e. payments "in kind") and investment costs in training.

Wenela/NRC officials and agents deal with most recruitment costs which can be controlled through budgeting procedures. Attestation fees are of special importance. Here variations occur between supplier areas. For South Africa a fee of R1.00 per person is payable. At present, this also applies to the Transkei, though it is reported that the fee for this area will probably soon be raised to the higher levels charged by supplier States. The Botswana (R10.00 per recruit) and Lesotho (R11.50) fees are much on a par while the Rhodesian "Stamp Duty" of $RH 6.00 is of a similar order of magnitude. Swaziland's attestation fee (R1.00) remains low and could well be changed soon. For the most part, attestation fees are used as "revenue raising devices" by supplier States. It would not appear at this stage that they are yet at a level which would itself cause any basic change in the CM/MLO demand pattern between local and foreign labour.

In addition to attestation fees, the employers must meet liabilities under the Bantu Labour Act, 1972. These contributions came into force on 1 January 1974, at which time levies on the employment of African workers were raised for non-gold producers. At that stage, gold mines remained exempt from the levies as they had been under previous legislation, because of adoption of a policy of only taxing their profits. The government's case in securing levies was that they were to finance Bantu Affairs Administration Boards in respect of services such as housing, transport, etc. Thus, because the industry financed much of these costs, the CM objected. However, in April 1975, despite protestations, levies were not only raised but were also extended to cover gold and uranium mines. In relation to the main sources of State tax income from mines, however, the levies are relatively small and will probably not significantly affect the overall demand for labour - except in so far as they may add more pressure to the case of protagonists within the "mining complex" who are pushing for rapid mechanisation.

In the area of wages, it is probable that upward wage trends will abate in the short-term, but this will probably not preclude wage rises in semi-skilled grades. From a broader perspective, the industry may well have an interest in further wage stratification. If surpluses of labour continue to grow in foreign labour markets, as in South Africa, it may seek to continue its policy of confining foreign workers to the more migrant and lower-paid tasks whilst reserving high-paid jobs for locals. This further fragmentation of the labour supply along national and social divisions could be functional to mining interests.

As with other primary producers, the mines retain control over a large element of workers' earning, about 40 percent according to the MLO General Manager.[77] Some of these benefits flow from CM outlays of an "investment nature" e.g. in housing, etc. which have a long life span. Other outlays, e.g. on foodstuffs (worth millions of rands), are of a more variable character and give employers more leverage over workers compared to a situation in which the only worker/employer bond is defined in cash terms.[78] By being able to buy in bulk at a discount, the CM probably in effect eliminates a sizeable element of "middlemen margins" which, if it paid all earnings over to workers as cash wages, the latter would need in order to find any given level of basic subsistence. A similar point applies to privatised housing or housing under the control of local authorities.

Investment costs in training are a necessary industry liability in the South African context, given that government does not provide sufficient State-subsidised training capacity to meet the total mine demand at various levels of skill. At the same time, the CM seeks to shift this liability on to the State and vice-versa.

STRATEGY ON THE "DISPLACEMENT" OF LABOUR: FOREIGN FOR LOCAL

A key structural trend in South Africa, and an explicit policy consideration of the mining industry has been the "generalised displacement" of labour in production. This process has manifested itself in two forms: the substitution of local for foreign workers and the substitution of capital for labour in production. This section is concerned with the former.

It has been noted that the MLO Budget And Objectives For 1977 included the policy of raising the local content of labour supply. The implication is the "displacement" of foreign workers. This view, although expressed a decade after the Froneman Committee's recommendations were put forward, stands in tune with the latter, but with some important qualifications.[79] Thus whilst Froneman sought the elimination of dependence on foreign labour supplies within 5 years following 1963, the Chamber has taken a more calculatedly hard-headed approach: its strategy rests on "gradual displacement", selective absorption of foreign States, the application of implicit or explicit quotas on those included in the system, and the "siphoning-off" of the more skilled elements of available foreign labour supplies.

On the latter issue, the CM would appear to be working towards the definition of a "safe level" of South African recruits in selected/strategic/skilled job categories, in so doing assessing prospective costs of rapid local replacement in the event of a crisis in labour supply caused by withdrawal against the costs of operating "above the margin" in the sense of incurring higher investment or wage costs to retain such a labour supply within the industry. Such strategic planning perspectives have become the order of the day as a result of confrontationist politics in Southern Africa. However, they do not affect all producers equally as some have consciously retained a low foreign/local labour content (especially of "Tropicals") for a number of years, e.g. Anglo American, JCI and Union Corporation.[80]

The mines, as with other industries dependent on foreign labour, do however have one "stop-gap" - an apparently substantial and growing pool of local unemployed and underemployed African labour. This has much diminished the evaluation of the costs of a withdrawal crisis to mining employers. On Knight's estimates, for instance, "the replacement of all foreigners would not nearly exhaust the total amount of underemployment."[81] Temporary adjustment effects, some "shortages" of a longer-term nature in mines highly dependent on foreign workers and/or which pay lower wages, and probably greater mechanisation would seem, at this stage, to be store in such an eventuality.

From the industry's viewpoint it is clear that total displacement of foreign labour would not be desired in the foreseeable future, at least for 10 years. It could even be envisaged that, even in the event of much growth in local unemployment, the CM would resist pressures on it to "displace" labour beyond a certain minimum point, if only because of the "wage savings" this would imply (assuming here, probably realistically, that real wages are "sticky" in a downward direction).

There is no way of estimating at present "how far" the CM would go. Its target for a 50 percent South African labour content is set down for April 1977. This could be pushed a lot higher, say to 60 percent or 75 percent, but would the CM wish to pursue such a policy beyond that point at which its balance of interest fell overly dependent on a localised work force for whom responsibilities and problems might shortly arise in respect of the attainment of job security, old age pension, welfare, housing for families, etc.? It would appear rather that present profit maximisation requirements dictate "gradualist displacement" and the continued usage of foreign labour reserves.

STRATEGY ON THE "DISPLACEMENT" OF LABOUR: LABOUR FOR CAPITAL

The displacement of foreign workers is related to the substitution of capital for labour at the industry-wide and localised mine levels. In strict terms, these two processes would seem to be "mutually determining", at least in the short-term.

The volume demands for capital needed in production are affected by the availability and forms of labour supply whilst the latter do, together with the constraints applicable to current technology and finance, help identify capital needs. A major variable in this respect is the long-run prices of basic mineral commodities, a subject both involved and of too much difficulty of assessment to allow for any simple answer here.

The trend-volume of capital available for fixed investment, even if prices of capital and commodities as well as dividend share policies were known, could not be assessed, if only because of political factors. The re-investment rates for mining are much influenced by State tax policy as well as the subsidies outlayed by the State either to maintain "marginal mines" in production or to extend the lease of life of the industry by lowering its implicit or explicit input costs.

Nonetheless, various mechanisms and policies suggest a capital-intensive trend. Tax policy provides for both investment and accelerated depreciation allowances. The "natural" growth of the industry, especially in the case of gold mines, gives rise to a tendency for old (labour-intensive) mines to fall by the wayside whilst investments coming "on-stream" tend to be designed as more capital-intensive enterprises. Tendencies to a great share of benefication of total non-gold output imply capital-intensive investment patterns. Technological research is also almost wholly in this direction. "Mechanisation with capital-intensification" (they should not in theory at least be confused as necessarily being the same thing) are clearly enunciated policies of almost all mining houses, the CM and its affiliates. The "voice of reason" - arguing for labour-intensive production to "fit" the times of surplus labour - is yet to be heard. It would also most likely be ignored, for financial reasons.

34/....

Further, "labour problems" in the last 5 years have probably confirmed, to the the extent of it becoming an article of faith, the deeply held view in the industry that highly automated plants with capital-intensive equipment provide for a less "troublesome" set of labour problems. And, now, there is the insecurity angle to dependence on imported labour. All this predisposes investment and planning decisions, both on capital and labour, towards a policy of mechanisation.

MECHANISATION: CONSTRAINTS AND SOME IMPLICATIONS

The President of the Chamber of Mines in 1974 clearly enunciated an essential point of CM policy when he noted: "We intend that the man with the shovel will give way to the man with the machine".[82]

Such a policy requires an underlying strategy, at least as far as can be worked out within technical and/or political limits. If there is any single guiding principle it is, as Mr H.F. Oppenheimer has recorded, that "the most unproductive jobs (should) be progressively eliminated through re-organisation or mechanisation".[83] This is easier said than done, not only because such jobs may not be easily identified, but because too the re-organisation and/or mechanisation of certain work comes against either temporary or long-term political or technical constraints.

The technical conditions within which mechanisation must occur are formidable, particularly on gold mines.[84] Mechanisation of stopes needs, it it is to be effective, mechanised support, roof bolting and cleaning and ore removal facilities. All this must occur at great depth - at an average of one kilometre and often about 3000 metres - in conditions of hard rock across extensive but thin reefs. The depth/rock combination yields strata control problems because of the resultant pressures. Rock hardness also implies the need for hard instruments to gauge, rip or cut away the payable ore, if non-explosive extraction is to be feasible. The logistics of previous mining patterns also pose problems. Most mines have kilometres of face, each stope needing ventilation, sometimes refrigeration, as well as water and compressed air along access routes. It is thus possible that some mines might adopt a selective mechanisation policy, concentrating on certain areas before moving onto others. An implied mixed labour demand pattern could result. However, non-explosive mining can advance production significantly, diminishing the need for excavation prior to blasting as well as time spent in cleaning broken rock. Machines could thus (theoretically) increase ore recovery rates. Further, blasting tends to scatter and dilute ore veins with waste rock, the transport of which raises minimum tonnage trammed per fine ounce recovered. But non-explosive gold mining methods are difficult to develop.

Various machines and new methods have however been examined, most focussed on the gold, coal and uranium sectors. A major focus has been the rock-cutter (and allied alternatives in the shock wave rockbreaker, impact rippers and the swing hammer). For certain areas these rockcutters have already proved economic. Further, it has been found feasible to leave half the waste rock behind to be packed into the stoped-out area. This halves stoping width, resulting in improved strata and environmental control in deep-level mines as well as doubling the grades of ore trammed. But there remains concern with productivity levels associated with rockcutting equipment; and much research needs to be done still.

Other areas of advance include:[85] (a) strata control techniques (using new props); (b) underground vehicles; (c) electrohydraulic equipment development; (d) centrifugal mini-mills for underground ore crushing; (e) use of conveyers in mechanised stoping; and (f) computer simulation in the improvement of stoping systems. As with rockcutting, R & D needs to go further still for these to be welded together into a viable capital-intensive production system.

On the political side, problems can also be anticipated. Almost certainly, mechanisation would involve a re-definition of occupational structures and the labour process. Manual tasks would fall away to a greater degree, reducing the demand for unskilled workers (e.g. for hand tramming) at a time of evident rising surplus both in South Africa and supplier States. The decisions over the manning of new machinery will involve a struggle not only between mine-owners and strong organised unions. It will also invlove African workers. The demand for blasters - at present a "skilled job" monopolised by certified personnel - will also probably be reduced on a relative basis. Thus slightly more stratification amongst African workers can be anticipated and also a heightened degree of job insecurity amongst white employees, especially in the lower ranks which are more prone to the impact of mechanisation. On the other hand, the CM explicitly promise that all "African advancement" will not threaten anyone's employment. This could only really be so in a condition of rapid output growth and expansion of the industry. It almost certainly will not apply to "displaced" elements of unskilled labour.

CONCLUSION

The labour supply policy of the CM is in a process of change. However, it remains wedded in certain areas to labour policies typical of conditions of "primitive accumulation". It is perhaps not so much that the latter form of accumulation provides a large element of re-investment in the industry, but the transition from such a form of accumulation and its attendant labour structure has proved uniquely difficult for the "mining complex" in Southern Africa.

Reliance on foreign labour remains likely, if only in a diminished degree, for the foreseeable future. The benefits for employers and the State - in terms of the bias this pattern provides to accumulation in Southern Africa, reduced liability for Unemployment Insurance Fund payments, pension and post-employment liabilities, social security costs, health of "non-productive" elements of workers' dependants, and in reduced labour costs - make it an attractive option. The roots of policy retention lie in this sphere.

Notes/....

NOTES

1. Timothy Green, The World of Gold, Simon and Schuster, 1970.

2. See variously Anglo American Corporation of South Africa Ltd., Annual Report 1975, Johannesburg 1976; CIS, Anti-Report: Consolidated Gold Fields Limited, London, 1976; Financial Mail, Gold: The Winter of our Discontent - A Special Survey, August 13, 1976; Financial Mail, Inside the Anglo Power House, July 4, 1969; Johannesburg Consolidated Investments, Annual Report 1976, Johannesburg, 1976.

3. See the statement from Alex Borraine (Anglo American Corporation): "Hence efficiency and profitable operation, while not being our only objective, remains our principal objective." In Optima, 23, 2, June, 1973, p. 67.

4. For example, Theron's Recruiting Organisation, The Calvey Cann Recruiting Organisation, The Natal Coal Owners' Labour Association, J.R. Groenewald (Thabazimbi), Argo, Mazista and Hansen's Labour Organisation (Pty) Ltd., the Sugar Industry Labour Organisation. Some of these agencies recruit in foreign States but the numbers are not substantial.

5. Interview with MLO official, January, 1976.

6. For example Mr J.A. Gemmill (Bantu Labour Adviser to the Chamber of Mines up to 1973), whose father was also closely involved with Wenela/MLO. Since 1974 this post has been taken over by Mr A.C. Fleischer (the designation also being altered at the time to "Adviser on Black Labour"), the current General Manager of MLO.

7. See Chamber of Mines, Research Review, 1963, pp. 22-23, hereafter cited as C.M., R.R., 1963.

8. Ibid.

9. Ibid.

10. As of April, 1976 there has been no evidence of a change in status regarding Malawian contractees.

11. See Mine Labour Organisations (Wenela) Ltd., Reports and Financial Statements For The Year Ended 31 December 1970, Johannesburg, 1971.

12. See Mine Labour Organisations (Wenela) Lts., Reports and Financial Statements For The Year Ended 31 December 1974, Johannesburg, 1975.

13. AIM, Another Blanket, Johannesburg, 1976, p. iii.

14. Ibid., p. 10. Also see V.T. Ramahapu, Towards a Study of Basotho Labour in the Orange Free State Gold Mines: The Mechanisms of Social Control, National University of Lesotho, ILO Research Project on Migrant Labour in Lesotho, January, 1977, (mimeo).

15. AIM, op. cit., p. 14; V.T. Ramahapu, op. cit.,

16. For a full listing of such factors see UNDP, E. Kwame Afriyre, Report on the Preliminary Investigation of Migrant Mine Labour in Ngamiland, Technical Note No. 7, Gaborone, 1976, (mimeo).

17. C.M., R.R., 1965, p. 52.

18. See D.G. Clarke, Contract Labour From Rhodesia to the South African Gold Mines: A Study of the International Division of a Labour Reserve, SALDRU Working Paper No. 6, University of Cape Town, 1976.

19. See W. Hudson, Development of Job Evaluation in the Mining Industry, Optima, 23, 2,June, 1973.

20. Note that in V.T. Ramahapu, op. cit., p. 15, it is claimed that miners are weighed on each pay day.

21. For criticisms of "hospitalisation" (and availability of food for patients) see AIM, op. cit.

22. Interview with Dr C.H. Wyndham, Chamber of Mines Human Resources Laboratory, Johannesburg.

23. See V.T. Ramahapu, op. cit., also AIM, op. cit.

24. V.T. Ramahapu, op. cit., p. 17.

25. Ibid., p. 16.

26. AIM, op. cit.

27. Those listed here are extracted from C.M., R.R., 1964, p. 48.

28. See Optima, 23, 2, June, 1973, p. 68.

29. W. Hudson, op. cit.

30. W.D. Wilson, cited in Optima, 25, 2, 1975.

31. Interview with MLO official.

32. V.T. Ramahapu, op. cit.

33. By "differential stabilisation" is meant a situation in which job and/or residence stability across the labour force are non-consistent but patterned to meet employer requirements.

34. See Chamber of Mines of South Africa, Annual Report 1975, Johannesburg, 1976, p. 10.

35. Chamber of Mines of South Africa, Annual Report 1974, Johannesburg, 1975, p. 13. Emphasis added.

36. There are in fact significant variations, e.g. between Mocambique and Swaziland.

37. See Chamber of Mines of South Africa, Annual Report 1973, Johannesburg, 1974, p. 75.

38. On the effect of repeal of the Masters and Servants Act, see Financial Mail, 8 October, 1976.

39. Interview with staff member, Human Resources Laboratory, Chamber of Mines, Johannesburg.

40. K.F. Mauer, The African Production Supervisor in the South African Mining Industry, M.A. thesis, University of Natal, Durban.

41. See W.D. Wilson's article in Optima, 25, 2, 1975, p. 75.

42. Chamber of Mines of South Africa, Annual Report 1970, Johannesburg, 1971, p. 13.

43. For details on historic country-by-country man-year contributions of labour-time see J.S. Harrington and N.D. McGlashan, Migrant Workers and Cancer Patterns in Southern Africa, Journal of Southern African Studies, 3, 1, October 1976, Table 1.

44. See D.G. Clarke, op. cit.

45. See W. Hudson, op. cit., p. 73.

46. Chamber of Mines of South Africa, Annual Report 1971, Johannesburg, 1972, p. 10.

47. Take the following example: mininmum shift rates (underground labour) in Rhodesia (1977) $RH 0.40; average monthly earning for domestic workers in Rhodesia $RH 30.00; Rhodesia is one of the relatively "high wage" zones in which Wenela/MLO recruits.

48. See F. Wilson, International Migration in Southern Africa, ILO Working Paper, Geneva, 1975; also see Annual Reports of the Chamber of Mines of South Africa (1970-75 inclusive) for details.

49. On historic changes, see F.J. Rahn, The Effects of a Changing Gold Price on the South African Gold Mining Industry, Unisa D. Comm., 1973.

50. To date MLO has defined this explicitly at 50 percent of complement. However, it is significant that the MLO has set no upper limit to the South African component of the labour supply. It is possible to envisage this being in the 75 percent range, however. Certain internal structural trends are making it easier for such a target to be reached, e.g., growing unemployment and high tax rates now levied on the Transkeian peasantry.

51. See V.T. Ramahapu, op cit.

52. See CIS, op cit. Also W. Hudson, op cit.

53. See C.M., R.R., (for various years), 1965, 1967, 1968, 1969, 1974.

54. For example, see Johannesburg Consolidated Investment Ltd., Chairman's Review (by Sir Albert Robinson), 9 November, 1976.

55. See To The Point, 27 December, 1974, where it is reported that the General Manager of the MLO had talks with Admiral Rosa Couthino (head of the Angolan Junta) regarding recruitment in Angola. Subsequently, MLO/Wenela has had contact with officials of the MPLA on similar questions (source: MLO official).

56. Financial Mail, 8 October, 1976.

57. See Mine Labour Organisations (Wenela) Ltd., Reports and Financial Statements For The Year Ended 31 December, 1971, p. 3.

58. Interview with an MLO official.

59. The term "polyvalency" itself implies the binding of the (contract) labour supply in many forms and ways.

60. Interview with A.C. Fleischer (General Manager, MLO), December, 1976.

61. Ibid.

62. Financial Mail, 1 July, 1975.

63. See for example, Financial Mail, 4 April, 1975.

64. MLO officials often cite this point, claiming on occasion that there could be as many as 100,000 workers on white farms who are underemployed.

65. See Rapport, 16 Januarie, 1977.

66. Financial Mail, 8 October, 1976.

67. C.M., R.R., 1971, p. 62.

68. The C.M. has tested seven different econometric models to date.

69. M.M. Beadle, Relative Importance of Factors Affecting the Supply of Black Labour to the Gold Mines, C.O.M. Research Report, 62/75, Johannesburg.

70. A.C. Lawrence, The Productive and Unproductive Experiences of Malawian Mine Workers, C.O.M., Research Report, 41/74, Johannesburg.

71. J.A. Parsons, A Review of Factors Affecting the Supply in the Short-Term of Black South African Manpower for the Goldmining Industry, C.O.M., Research Report, 51/74, Johannesburg.

72. C.B. Hewitt, Measuring the Relative Wage Value of Jobs As Perceived By Black Workers, C.O.M. Research Report 60/74, Johannesburg; also The Black Production Supervisor in the Gold Mining Industry: A Review of Research 1948-1972, C.O.M. Research Report, 44/73, Johannesburg; and Measuring the Drawing Power of Mines and Jobs on Bantu Mine Workers, C.O.M. Research Report, 54/72, Johannesburg.

73. See (Chamber of Mines) Productivity Campaign, Contributions to a Seminar on the Stabilisation of Labour, 30 November, 1976, Johannesburg.

74. Notably G. Ruttman, University of Southern Illinois.

75. For instance AAC executives have worked on labour supply projections in conjunction with the Unit For Futures Research of the University of Stellenbosch.

76. Interview with Chamber of Mines' official.

77. Interview, December, 1976.

78. For details on non-wage outlays forming part of direct labour costs see Chamber of Mines of South Africa, Annual Report 1975, Johannesburg, 1976, (especially tables on stores).

79. See Ken Owen, Foreign Africans: Summary of the Report of the Froneman Committee, SAIRR, Johannesburg, 1973.

80. Financial Mail, 6 December, 1974. For a more detailed analysis of the questions raised in this section see D.G. Clarke, Foreign African Labour Inflows to South Africa and "Unemployment" in Southern Africa, Workshop on Unemployment and Labour Reallocation, Development Studies Research Group, University of Natal, (Pietermaritzburg), 1977, (mimeo).

81. J.B. Knight, Labour Supply in the South African Economy and its Implications for Agriculture, SALDRU Farm Labour Conference, University of Cape Town, 1976, (mimeo).

82. Chamber of Mines, Mining Survey, 25 October, 1974, p. 21.

83. Quoted from Optima, 23, 2, June, 1973.

84. See various reports in Optima; C.M., R.R., (various years).

85. See C.M., R.R., (for various years). Also Financial Mail, Gold Survey, op cit.; and Chamber of Mines, Mining Survey, 25 October, 1974.

TABLE 1

CHAMBER OF MINES

MINING HOUSE EMPLOYERS

1970-1975

Year	AAC	ATC	GMFC	JCI	Goldfields	Rand Mines	Unicorp.	Total Gold	Coal
1970	112,115	37,782	36,319	16,492	59,521	60,800	44,259	367,422	33,749
1971	113,119	33,918	35,592	16,168	57,844	55,254	39,944	351,839	34,335
1972	118,077	34,292	37,620	16,995	59,299	46,236	52,652	379,599	34,774
1973	118,395	27,551	40,045	18,502	55,868	64,823	59,813	389,357	32,824
1974	106,681	21,779	32,629	15,211	44,334	57,939	56,288	330,523	32,977
1975	104,297	23,063	31,315	15,372	48,038	52,004	51,952	329,755	34,903

Source: Mine Labour Organisations (Wenela), Ltd. Reports and Financial Statements (1970-1975 inclusive), Johannesburg.

Note: The total for gold mines does not strictly add up. It excludes 74 workers employed on "sundry mines" (mostly the Lonrho Group).

TABLE 2

CHAMBER OF MINES

GOLDMINES

WORKING REVENUE, COSTS AND PROFITS

1970-1975

(Rands)

Year	Working Revenue Per Metric Ton	Working Costs Per Metric Ton	Working Profit Per Metric Ton
1970	11.24	7.24	3.90
1971	12.36	7.88	4.48
1972	16.25	8.79	7.46
1973	23.93	10.51	13.42
1974	34.70	13.18	21.52
1975	34.45	16.71	17.74

Source: Chamber of Mines, Annual Reports (1970-1975 inclusive). Johannesburg.

Note: The above are based on "average declared" values for members of the Chamber.

TABLE 3

CHAMBER OF MINES

GOLDMINES

DIVIDENDS DECLARED

1970-1975

(Millions of Rands)

Year	Value	Dividend Value Per Kgs. Fine	Dividend/'Non-White' Wage Bill Ratios
1970	143,5	14.5	1.67
1971	142,4	14.7	1.55
1972	196,3	21.8	1.89
1973	320,2	37.9	2.18
1974	565,8	75.2	2.54
1975	522,8	74.4	1.48

Source: Chamber of Mines, Annual Reports (1970-1975 inclusive). Johannesburg.

Note: The wage bill referred to reflects that of coal and gold mines.

TABLE 4

CHAMBER OF MINES

'NON-WHITE' EMPLOYEES

AVERAGE NUMBER AT WORK AND SURFACE/UNDERGROUND ALLOCATION

1970-1975

Year	Underground		Surface		Total
	Gold	Coal	Gold	Coal	
1970	292,532	24,177	78,007	10,929	405,645
1971	294,278	25,132	77,626	11,153	408,194
1972	285,309	25,190	75,450	11,288	397,237
1973	301,147	24,165	76,572	11,133	413,017
1974	275,453	24,179	75,207	11,355	386,194
1975	249,728	25,124	73,356	12,110	360,318

Source: Chamber of Mines, Annual Reports (1970-1975 inclusive). Johannesburg.

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1.	WORKSHOP ON UNEMPLOYMENT AND LABOUR REALLOCATION IN SOUTHERN AFRICA, DSRG, Pietermaritzburg, 18/19 March, 1977. 10 Papers (unbound)	7,50

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